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| SERIAL NUMBER | FILING DATE | FIRST NAMED APPLICANT | ATTORNEY DOCKET NO. |
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| 077020,478 | 03/02/87 | NILSSEN | |

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| EXAMINER | |
|-----------|--------------|
| POWELL, M | |
| ART UNIT | PAPER NUMBER |
| 266 | 7 |

DATE MAILED:

08/10/88

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

- ☐ This application has been examined ☒ Responsive to communication filed on 6/8/88 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 6 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449 | 4. <input type="checkbox"/> Notice of informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474 | 6. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-15 are pending in the application.
Of the above, claims 5 are withdrawn from consideration.
2. ☒ Claims 5 have been cancelled.
3. ☐ Claims are allowed.
4. ☒ Claims 1-4, 6-15 are rejected.
5. ☐ Claims are objected to.
6. ☐ Claims are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

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In view of applicant's remarks on page 4 subparagraph of the brief and the final rejection of claims 1-4, 6-15 under 35 USC 103 as being unpatentable over Skwirut, Anderson and Nilssen is withdrawn and prosecution on the merits is reopened.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless-

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Miller, of record.

Miller discloses an arrangement comprising a gas discharge lamp means 2 (Fig. 1) having lamp terminals, high frequency converter means (the supply circuit shown), and base means 3, 4 operative to provide support for the lamp and its high frequency circuit. The base means 3, 4 includes an Edison-type screw base 4 adapted to be screwed into a corresponding Edison-type socket and make contact with the socket electrodes therein.

Claims 3, 4, 6 to 11, 13 and 14 are rejected under 35 U.S.C. 103 as being unpatentable over Miller, supra, in view of Zuchtriegel.

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The subject matter of claims 3, 4, 6 to 11, 13 and 14 are drawn to (or better put, characterize) the high frequency, integral fluorescent lamp unit generalized by claims 1 and 2, but additionally limited to a half bridge inverter having LC resonant output, with the discharge lamp load connected in parallel with the capacitor of said LC circuit.

Miller does not specify a particular high frequency converter for his which is enumerated 18, thus one of ordinary skill in the art would have been free to select from one of many types such as half-bridge, full bridge, single-ended etc., which would have been appropriate for fluorescent lamp loads.

Zuchtriegel discloses a common half bridge inverter 11 having series switching transistors T1, T2 connected across rectifier 5 and having output terminals at (at least one) capacitor C1 of the series resonant LC output circuit including C1 and L1. As is known, the output voltage and current across C1 is substantially of sinusoidal waveshape; the voltage applied to the LC circuit is square-wave or switched dc at the "center tap" constituted by the junction 8 of the two transistors.

It would have been obvious to one of ordinary skill in the art to employ the Zuchtriegel arrangement to fill in the unspecified high frequency oscillator circuit required by Miller because the Zuchtriegel circuit is appropriate for one or more fluorescent lamps (which is the only requirement of Miller), and again, because the choice of converter types is left up to the skilled designer by Miller.

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Claims 13 and 15 are rejected under 35 U.S.C. 103 as being unpatentable over Miller in view of Zuchtriegel as above and further in view of Crane.

Claims 13 and 15 call for a positive feedback circuit in the half bridge inverter which includes a saturable inductor means.

This differs from positive feedback taught by Zuchtriegel which employs ordinary control windings L2 connected from the output to the base circuits of the transistors T1 and T2.

Crane teaches the use of saturable inductor means including saturable core transformer 90 on which are wound control windings 96, 98 in Figure 1. The circuit of Figure 1, like that of Zuchtriegel, constitutes a half bridge inverter employed to drive fluorescent lamps 110.

It would have been obvious to one of ordinary skill in the art to substitute the saturable-inductor, positive feedback arrangement taught by Crane for the ordinary-inductor, positive feedback disclosed by Zuchtriegel because both are available as alternatives for controlling the subject push pull inverter and the saturable type provides for improved reliability by insuring that both transistors are not conducting simultaneously, which would short the source.

Any inquiry concerning this communication should be directed to Mark R. Powell at telephone number 703-557-3321.

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07-20-88

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